

Jepson (S. L.)

# REPORT ON THE EPIDEMICS OF WHEELING.

BY DR. S. L. JEPSON., OF WHEELING.

an East. Arch.  
65488  
Washington, D.C.

At the last meeting of this Society I was appointed a member of the "Committee on Climatology and Epidemics," but beg the privilege of confining my report to Epidemics alone, and will only attempt to give a brief and necessarily imperfect account of those which have occurred in Wheeling, my own field of observation. Since no report has been made for several years, I will go back as far as 1872, at the close of which there appeared in the city

## PUERPERAL FEVER.

This disease made its appearance in December of that year, and prevailed until the following Summer. Indeed the tendency to puerperal diseases has continued almost to the present time. It is impossible now to tell how many cases occurred or how many deaths have resulted from this cause. But they were much more numerous than at any other time since the year 1847, when, I am informed a great epidemic existed both in the city and neighboring country. In this later visitation the cases and deaths were so numerous as to strike terror to the heart of every pregnant woman, and also to cause all physicians to look forward with dread to every expected obstetrical case

The first case attended by myself was first seen on Dec. 23rd. So far as I can learn this was the second case in the city. My next case occurred on Jan. 3rd. As this was a typical case serving well to illustrate the type of the disease as it prevailed here, and as it was the only case in which an autopsy was held, I here present brief notes taken at the time.

S. H. colored, act. 19 unmarried in previous good health, was delivered of her first child Jan. 3rd, 1873, by a midwife. Labor natural. I was called to see her at 9 A. M., Jan. 4th, 32 hours after delivery. She had passed no urine. I drew off nearly half a gallon. At this time the abdomen was distended with gas, and there was considerable pain, even when the patient was quiet, while there was marked tenderness on pressure in the iliac and hypogastric regions. A vaginal examination discovered great tenderness in both iliaes. Pulse 112, and rather full but soft. Temperature 101½ degrees. Tongue dry, and sordes on teeth.

Ordered hot poultice to the abdomen, preceded by turpentine stupe. Morphia gr. ½ and quinine grs. 2 every two hours.

25-

Jan. 5, 9 A. M.. Pulse 120, temperature  $104\frac{1}{2}$  degrees. A marked diminution of the tenderness in the iliac regions, while that in hypogastric was increased, and also extended up to umbilicus. Marked tympanites. In the evening the temperature was  $104\frac{1}{2}$  degrees, and the pulse was weaker. Morphia gr.  $\frac{1}{2}$  every three hrs.; also brandy in addition to the other treatment.

Jan. 6, 9 A. M. Temperature  $104$  degrees. Pulse 130 and losing strength. Delirium at times. Abdomen becoming even more tympanitic, but the tenderness not marked. A quantity of mucus offensive in character, flowed into the bed pan from the vagina to-day. From this day the pulse rapidly gave way, there being but little sign of improvement at any time; and death occurred at 5 o'clock P. M. of Jan. 7th, the fifth day after confinement. No urine was passed after delivery except through the catheter.

A hasty and partial examination of the body was permitted, which revealed the following appearances. Intestines enormously distended with gas, and also contained a large quantity of liquid feces. A considerable quantity of fluid in peritoneal cavity. A few lymph floculi were scattered over the lower bowels. No agglutination of the intestines nor other evidence of general peritonitis. The serous covering of the uterus was inflamed, the inflammation apparently of a low type. Ovaries much congested. No evidence of sthenic inflammation anywhere present. Uterus was well contracted. No further examination made.

During the past two years many cases have been reported to our local Society, none of which differed materially from this case. The disease generally set in within forty-eight hours or at longest seventy-two hours after delivery, the initial symptom being either a distinct chill or chilly sensations. These were immediately followed by fever, the temperature varying from  $102$  to  $105$  degrees during the course of the disease. The pulse was quick and never strong; abdomen always distended, and tenderness in pelvic region; always more or less tendency to delirium. My own experience is that the abdominal tenderness did not commonly extend as high and was not so great as in the case detailed above. The lochia and also the milk became suppressed, or perhaps the secretion of the milk never became established. The tongue early became dry, sordes appearing on the teeth, and the pulse soon gave way. There was generally little or no abatement of the symptoms at any time in the fatal cases, the disease passing rapidly into a typhoid stage, which speedily terminated in death by asthenia.

I have seen or heard of no evidence pointing to the contagiousness of the disease. No one physician had more than his share of these cases. The disease was not at all localized in the city; and indeed I believe several cases occurred in the country.

During the prevalence of the disease, there occurred in my own practice several cases in which delivery was followed on the second or third day by a slight increase of temperature, ( $99$  to  $101$  degrees,) with some tympanites and pelvic pain and tenderness, all the symptoms yielding readily to a few doses of opium.

TREATMENT.—In the bad cases this consisted generally of opium freely, with early and persistent stimulation with quinine and alcoholics; locally, turpentine followed by hot poultices.

Some of our physicians used veratrum in conjunction with opiates early in the disease.

Others employed tincture of iron. In a few cases mercurials were employed. In many cases vaginal injections of a solution of carbolic acid or other disinfectant, were employed. One or two physicians used blisters

to the suprapubic region, and had confidence in their efficacy. I think however, the profession will bear me out in the statement, that no treatment was settled down on with confidence in its beneficial results. The mortality under all plans of treatment was very large.

#### TYPHOID FEVER.

In the autumn of 1873 and later, typhoid fever prevailed in Wheeling to an extent never before observed in the city. It became epidemic in September, and was not confined to any one part of town, but was present in every ward and street. The number of cases can only be estimated, but they were certainly not less than four hundred, and may have been as many as five hundred during the last four months of the year. The number of deaths likewise is uncertain. The number of deaths returned to the Health Officer during those months was thirty, but this is below the actual mortality, the returns in no case being full.

One marked feature of this epidemic was the mildness of the large majority of the cases. Many of the patients, while having all the ordinary symptoms of genuine typhoid fever as seen every year, could with difficulty be persuaded of the importance of lying in bed, and indeed of some it may be said that they did not pass a whole day in bed during a sickness of two to three weeks duration. One case of this kind occurred in my practice, the patient being a boy 9 yrs. of age. He spent the mornings in an easy chair, but towards evening was compelled to resort to his bed or a lounge. The case was a well marked one, but all my endeavors and warnings failed to keep him in a recumbent position; and after an illness of more than two weeks duration, he made a slow but perfect recovery.

Another peculiarity of this epidemic was the unusually large number of cases occurring among children, some of them being very young. I think it would be safe to say that a majority of the persons attacked were under eighteen years old. In the quite young patients the disease was generally remittent in type.

As to the cause of this epidemic, no theory has been offered that is at all plausible, and I therefore prefer to present none here. The following facts however may be given:

About the time of its commencement, cholera had just left the city. On account of the presence of this disease as early as the latter part of June, more than ordinary attention had been given to the sanitary condition of the city during the whole summer.

In the prosecution of this sanitary work, over two hundred privy vaults were cleansed during June and July, ("better late than never," being the idea,) the contents being removed by the abominable bucket and cart system, and transported through the streets to be dumped into the river, not unfrequently a part of the load escaping on the streets.

Is it possible that this stirring up of old vaults in the hot months and the letting loose of foul gases throughout the city, had any influence in the causation of a typhoid epidemic which set in two months later?

#### CHOLERA.

In June 1873, as above remarked, Wheeling in common with many other towns and cities of the South and West was visited by malignant cholera. Being Health Officer of the city, I was in a position to watch its progress, and hence am able to report more fully upon it, than upon the other epidemics here referred to, the direct prevention or control of which our health laws do not contemplate.

As I propose to enter somewhat fully upon a history of this epidemic, if so few cases as we had can be dignified with such a title. It may be well in order to a more correct understanding of the facts here given, by those who have never visited Wheeling, to say a word touching the topography, sanitary aspects &c, of the city.

*Topography.*—Wheeling is situated on the east bank of the Ohio River (except the Seventh Ward, which is on Wheeling Island, and may be omitted in the consideration of the subject, as no case of cholera occurred in it), on “an average elevation of six hundred and forty feet above the sea level,” and the “river bottom” on which two-thirds of the city is built is forty feet above low water mark in the Ohio. That part of the city under consideration is divided into seven wards, numbered from north to south 1st, 2nd, 3rd, 4th, 5th, 6th and 8th, the 1st being the highest and the 8th the lowest ground. Wheeling Creek, a stream of considerable size, divides the city between the Fourth and Fifth wards. The Eighth Ward is separated from the remainder of the city by a wide common, through which a small stream flows. The common is laid out in streets, and contains a number of residences recently erected. The whole city is surrounded by high hills, which so closely overlook the river that the city is cramped for room, and so extends in width only from one to eight squares, the average not exceeding four. The length is about four miles, and it contained a population of 26,000.

In order that an approximate idea may be had of the location of the cholera cases (the number of each house being given in an accompanying table), I will state that our streets running north and south are named, from the river eastward, Water, Main, Market, Chaplain, Eoff, Jacob, Woods, etc.; those running east and west, First, Second, Third, etc., and each house is numbered from north to south on a basis of one hundred to each square.

*Sanitary Condition.*—As a result of the proximity of the hills, upon the sides of which many houses are built, in many places it is impossible to dig privy vaults that will not rapidly fill with water. In some parts of the city, too, the same state of affairs exists by reason of former swamps and small water-courses having been filled up, previous to any attempt at drainage. This is true, particularly in the Spring and in very wet weather, of portions of every ward in the city. As a consequence, the city contains an unusual number of offensive vaults, many requiring cleaning every year, and some rapidly filling up, even in dry weather, after being cleansed. The city in 1873 was badly paved and poorly sewered. Many of the streets south of the creek, and almost all the alleys, were entirely unpaved, while that portion of the city was and is still most deficient in sewerage. The waste water from hydrants, kitchens and stables, therefore, finds its way into the alleys and street gutters, while the more solid offal was thrown out, in the confident expectation that it will be speedily removed by some of the innumerable hogs which roamed through the city.

As soon as the city became “threatened with epidemic disease”—an emergency in the absence of which the Health Officer has not the power to employ a single assistant,—a Sanitary Inspector was appointed for each ward with full power to compel the abatement of all nuisances. Men under the control of the Street Commissioner were kept constantly at work in some part of the city, and lime was scattered at intervals in the gutters and alleys. So that Wheeling, while not in a condition to especially repel cholera, was neither in a condition to especially invite it.

We will now proceed to detail the first reported cases, and refer to such others as seem to be of sufficient interest to merit some attention.

*Case No. 1.*—The first case that presented symptoms of cholera did not come to my knowledge until the end of the month in which it occurred,



when I saw the death certificate, written "Cholera Nostras." The date of the attack was June 9, the patient, a German woman, aged fifty years, residence 2,114 Main Street, Fifth Ward, wife of the proprietor of a lager-beer saloon, which was in the same house as that occupied by the family, who lived in the rooms back of the saloon. The second and third stories were occupied by two families, six individuals being on the second floor, and four on the third. A man and son on the third floor were newspaper carriers, and a man and son on the second floor were laborers, with no regular place of employment. A privy vault was in common use at this house, and was also used by the visitors to the saloon. The rear wall of the cellar formed one wall of the privy vault, which was in very bad condition, the fluid contents of the vault leaking through into the cellar of the dwelling. On June 9, about 3 P. M., after her morning work, this woman was suddenly taken with diarrhoea, full cholera symptoms rapidly developed, and after about three hours of collapse she reacted, but died on the sixth day with "cholera typhoid." This patient was subject to attacks of what her physician calls "gastric and intestinal catarrh" every Summer. She had not been absent from the city during the Summer, nor had any of the inmates of the house. No stranger had been visiting them, and no direct means of introduction of the disease has been discovered.

*Case No. 2.*—Male, aged twenty-two years; residence 3,600 Chaplain Street, Eighth Ward. In good health, temperate, and worked at the La Belle Iron Mill. The house in which this case and the succeeding one occurred, is a large two-story brick tenement, occupied by five families, containing nineteen individuals, eleven up stairs and eight down. Those persons engaged away from the house were occupied as follows: The father of Case No. 2, with two other men, worked at the Glass Works of Hobbs, Broekunier & Co., who employ about three hundred hands; three at La Belle Mill; one a laborer without steady employment. The premises were in bad condition. The cellar was very damp, and contained a small quantity of offensive water; an open board drain intended to carry waste water from the hydrant was defective and filthy; at the foot of the yard was an unused privy vault almost full, and but imperfectly covered. This patient had for several days been suffering with a diarrhoea, and was hence unusually prudent in diet. On the day of his attack with cholera, he walked to his physician's office, a distance of two squares, and fainted twice on his way home, from exhaustion caused by previous copious discharges. On this day, June 20, vomiting, cramps, and rice-water purging set in, succeeded by collapse, from which the patient reacted, and recovered after six days.

*Case No. 3.*—The next case was the mother of the above, aged sixty-one years. In only tolerable health. Had nursed her son, and was thus constantly exposed to the disease germs. Was suddenly attacked on June 28, having had no premonitory diarrhoea. Collapse occurred, followed by reaction in a few hours, and recovery on the 30th, the case being milder than No. 2. In about a week after her recovery, the husband had an attack of cholera morbus, from which he recovered without serious illness. None of these patients, so far as can be learned, were in any way exposed to the disease previous to the occurrence of the first case in the house.

*Case No. 4.*—Male, aged thirty years; residence 3,631 Eoff Street. In previous good health, moderate drinker, worked at the La Belle Mill, at which Case No. 2 was employed. Residence one and a half squares from cases Nos. 2 and 3, but there was no acquaintance even between the families, and no intercourse. After nearly a week's diarrhoea, by which he was not kept from his regular employment, this man was stricken down with cholera on the night of July 3. Collapse set in, followed by reaction in a few hours, and recovery after four days. The patient in all probability

used the vault at the mill during his premonitory diarrhœa, and may thus have been exposed to the poison of the disease deposited by Case No. 2.

*Case No. 5.*—Male, aged sixty-six years; residence 2,523 Chaplain Street. Healthy, temperate. Occupation, Justice of the Peace. Had diarrhœa for nearly a week, which was checked before July 4, on which day he attended a picnic in the country. He committed no imprudence in eating, but drank freely of lemonade made with limestone water, and to this attributes his relapse. At 1 o'clock A. M., July 5, he was seized with violent symptoms, the disease rapidly developed, collapse coming on in a short time. Reaction, however, was brought about in a few hours, and the patient recovered after seven days' sickness. There was a total suppression of urine for fifty-four hours. The residence of this patient was nearly a mile from that of any previous case, and no possible connection with any other case can be traced. The premises were in good sanitary condition, but an alley in the rear, and a gutter at the side of the house, were sometimes offensive, but these were never a cause of complaint.

It is not necessary to give at length the history of every case, all essential facts being given in an accompanying table. The cases reported below, however, seem to have some special interest by reason of their connection with each other or with other cases, and are therefore given somewhat in detail.

*Case No. 7.* Male, aged sixty-two years; residence 3,824 Eoff Street. Healthy, temperate. Occupation, night-watchman at the Riverside Nail Mill, which is on Main Street, extending from Twenty-fourth to Twenty-fifth Streets. Employed with him was another night-watchman, Mr. A., who tells me that previous to Mr. H.'s sickness (Case No. 7), he (Mr. A.) had a diarrhœa for three days; but kept at his post in the mill, using the privy vault on the premises. He described his diarrhœa as being painless, and so loose and watery as to necessitate great haste in reaching the vault. It was also so prostrating as to compel him to lie at home for a week after it was controlled, which was quickly done by early treatment. Mr. H. had diarrhœa at the same time, and not only remained in the mill with Mr. A., using the same vault, but visited him at his house after he was compelled to cease work. His diarrhœa ran on for nearly two weeks before he was attacked with choleraic symptoms. On the evening of July 9, vomiting and purging set in, followed by cramps of the extremities and speedy collapse. The dejecta were decidedly rice-water in character. Recovery ensued after seven days' illness, during which time typhoid symptoms existed, as indeed was true of almost every case that recovered.

Cases 10 and 11, were a man and wife, age respectively, seventy-three and seventy years, residence No. 30 Fifth Street, healthy, temperate, the husband a manufacturer. Local sanitary condition very good, being high and dry, and the premises in perfect condition. The husband, a man of uncommon vigor for his years, was attacked with diarrhœa on July 20. Received medical treatment on July 21, but the diarrhœa was not checked. On the evening of the 22d, the stools were decidedly rice-water in character. On the morning of the 23d collapse set in; some little reaction manifested, but death resulted on the 24th at three P. M. Neither cramps nor pains at any time.

The wife was a constant watcher at her husband's bedside, and although in excellent health previously, was worn out with anxiety and nursing. She was attacked suddenly with violent symptoms at five A. M. of the 25th, and died in collapse at 9 P. M. of the same day. In this case vomiting, purging, cramps, and rice-water dejecta were all present. The only possible connection traced between these and other cases, is the fact that Case 10 was in the habit of frequently visiting the mills in his business capacity,

and several cases had occurred among the mill hands. The location of the cases was nearly two miles from any previous case.

*Case 12.*—Female, aged fifty-two, residence 1,102 Chaplain Street, where she kept a boarding house; was somewhat worn down by hard work and the cares of her occupation, otherwise healthy. Sanitary condition of the premises bad. In the yard but ten or twelve feet from the kitchen, and on higher ground, was a large privy vault which had been cleaned out in May by my order, but which had again rapidly filled up, owing to the nature of the ground, and was again exceedingly offensive, the contents of the vault escaping at one point on the side next to the house. On this side of the house in the second story, were two rooms which contained an offensive odor, the cause of which could not be discovered, although diligent search was at different times made. One of these rooms was occupied by the patient as a sleeping apartment. This lady was in her usual health until the morning of her fatal sickness. The evening previous she had eaten a dish of ice cream. On the morning of July 25, she went as usual to the butcher shop one square distant, and on her return proceeded to prepare for the breakfast. She soon complained of not feeling very well, and about seven o'clock an exhausting diarrhœa set in. Two hours later violent cholera symptoms commenced, and the case resulted fatally at 9. P. M.

*Case 14.*—Male, aged forty-seven, temperate, healthy, an artist, two weeks from Philadelphia on a visit to a brother at No. 59 Twenty-sixth Street. Was attacked suddenly with great violence at eight P. M. on July 29, two hours after having eaten his supper. Was in a collapse when a physician reached him at ten o'clock. Recovered in a week. The brother had a similar, though less severe attack three days before. The case was not reported, being called cholera morbus.

*Cases 14, 19, 32, 33, 34 and 35,* constitute a group of considerable interest, and I shall speak of them together. They all occurred in a small frame house of two rooms on one floor, located in the Fifth Ward, on a high point overlooking Wheeling Creek, and nearly half a mile distant from any other dwelling on the same side of the creek. The house was occupied by two families, about ten individuals, nearly all unclean in their habits, and inebriates.

*Case 14.*—Male, aged fifty-eight, occurred on August 29, was comparatively mild, and was not reported as cholera. The patient recovered on September 10.

*Case 19.*—Female, aged twenty-eight, intemperate; occurred on September 2, was also mild, recovering on September 6, and was not reported.

The other cases occurred respectively on September 14, 19, 24 and 25, and were all fatal. It was not until the 25th that any case was reported to me. I immediately visited the house, where I found one person dead, one dying, and the third in a semi-collapse. A somewhat intelligent woman, who had been nursing these patients, gave me a full account of all the cases that had occurred, as did also the two patients who recovered, and I cannot doubt that they were all the victims of the same disease. I found that there was no privy accommodations whatever on the premises, and the cholera dejecta had been thrown out on the ground in the neighborhood of the house. The floor of the dwelling was also in a horribly filthy condition. No attempt whatever had been made at either cleanliness or disinfection. Several of the inmates were in a besotted condition at the time of my visit. All was done that was necessary to put the premises in good condition, disinfectants having been freely used. Cholera had disappeared from the city proper on September 7. In this isolated position it lingered until these measures enforced, after which no other case occurred.



*Case 24.*—Male, colored, aged sixty-seven, residence in private alley near Tenth and Market streets, laborer, very intemperate, sanitary surroundings bad; house low, dark, and poorly lighted and ventilated. This man had been suffering with a diarrhœa for some days, and was much prostrated thereby, no medical treatment having been received. On September 3, at ten A. M., he was attacked with cholera, and died at twelve P. M. on the 4th.

*Case 31.*—A daughter of the above, age twenty-six, prostitute, was attacked with diarrhœa on the 5th, but like her father, neglected it, and on September 7, at eight P. M., violent cholera symptoms set in, which terminated her life in six hours.

*Case 27.*—Female, aged fifty-two, intemperate; had been in the city about a month, selling pictures from house to house. She was boarding at No. 1,214 Water Street, a German hotel. Had diarrhœa for some days. On September 5, at six A. M., was seen by the proprietor vomiting in the yard; ate no breakfast. Cholera in its usual form soon after developed; the patient was removed to the hospital, and died there at nine P. M. In the room with this woman was her husband, who, although making no complaint, had also diarrhœa, and when seen at nine A. M. had a cold, shriveled surface, feeble pulse, and slight cramps in the legs. He also was sent to the hospital, confined to bed, put under treatment, and in a few days recovered.

Before making any comments on the facts here given, we desire to refer to a most interesting group of cases that occurred in the country four miles away, and which are not connected with the epidemic in the city.

Mr. J. T. C., a medical student, for some months resident in the Good Samaritan Hospital of Cincinnati, Ohio, took passage for this city on the steamer *Andes* on June 13. On June 15, he was attacked with a painless, liquid diarrhœa, which continued without treatment until he reached home. The *Andes* landed at Wheeling on the morning of the 17th, and Mr. C. started immediately for his home, walking one and a half miles and riding in a wagon the remainder of the distance. The diarrhœa continued, and vomiting set in the next day. Mr. C. described the dejecta to us as "resembling water into which a small quantity of milk had been poured." Medical treatment, with perfect rest, wrought a cure. On June 21, four days after Mr. C's arrival at home, his mother aged fifty-two, in previous good health, was attacked with choleraic symptoms, and after being sick a week, recovered. On June 25, Mr. C's grandmother, aged seventy-three, was similarly attacked, and died in twelve hours. On June 30, Miss C., aged nine years, was similarly prostrated, but recovered in about a week. Cramps accompanied all these cases except Mr. C's. Treatment was promptly administered by Mr. C., a very intelligent student, else the deaths might have been more numerous. The house in which these cases occurred is situated on a high point in the country, the family is possessed of ample means, and no sanitary defect existed. The cases could not be traced to any error in diet. It is worthy of remark that the first death from cholera in Cincinnati was not publicly reported until June 14, one day after this gentleman had left the city. Nothing resembling cholera had occurred in the Samaritan Hospital previous to his departure. That the cases were cholera, however, and that Mr. C. was the carrier thereof to his home, we cannot doubt.

If any additional evidence on this point is desired, the following facts seem to supply them. The only place at which Mr. C. stopped between the boat landing and his home, was the house of a black-smith about three miles out of the city. Here it became necessary for him to resort to the privy vault. Within ten days thereafter, the black-smith, his mother, wife and six children, every occupant of the house, were seized with vomiting,



*Cholera Cases occurring in Wheeling, West Va., in the Epidemic of 1873.*

Number.	Ward.	Residence.	Sex.	Color.	Age.	Married or Single.	Occupation.	Date of Attack.	Date of Recovery.	Date of Death.	Duration of Fatal Cases.	Local Sanitary Condition.	Habits and Physical Condition of Patient.	Remarks.
1	52114	Main St.	F.	W.	50	M.	Housekeeper.	June 9	June 26	June 15	6 days	Bad.	Delicate health	Premom. diarrhoea.
2	83600	Chaplain St.	F.	W.	60	S.	In iron mill.	20	July 1	-	-	Bad.	Temperate—healthy.	Premom. diarrhoea.
3	83600	Chaplain St.	F.	W.	60	M.	Housekeeper.	28	July 6	-	-	Bad.	Not very strong.	Sudden invasion.
4	83631	Eoff St.	M.	W.	30	M.	In iron mill.	3	-	-	-	Good.	Healthy—Mod. drinker.	Premom. diarrhoea.
5	62823	Chaplain St.	M.	W.	66	M.	Justice of the Peace.	5	12	-	-	Med.	Healthy—temperate.	Premom. diarrhoea.
6	62629	Chaplain St.	M.	W.	60	M.	In B. & O. R. R. Shop.	10	10	-	-	Good.	Healthy—temperate.	Half day's diarrhoea.
7	82824	Eoff St.	M.	W.	60	M.	In iron mill.	6	17	-	-	Good.	Healthy—temperate.	Premom. diarrhoea.
8	41714	Eoff St.	M.	W.	48	M.	Street paver.	9	-	-	-	Good.	Healthy—temperate.	Premom. diarrhoea.
9	83426	Market St.	M.	W.	48	M.	Laborer.	16, 4 p. m.	-	July 17, 5 a. m.	13 hours	Bad.	Good health.	Premom. diarrhoea.
10	1130—	5th St.	M.	W.	73	M.	Manufacturer.	21, 9 p. m.	-	23, 6 p. m.	45 hours	Good.	Healthy—temperate.	Premom. diarrhoea.
11	1130—	5th St.	F.	W.	70	M.	Housekeeper.	22, 8 p. m.	-	24, 3 p. m.	43 hours	Good.	Healthy—temperate.	Premom. diarrhoea.
12	21102	Chaplain St.	F.	W.	70	M.	Housekeeper.	25, 5 a. m.	-	25, 9 p. m.	16 hours	Good.	Worn down by care.	Sudden invasion.
13	649—	26th St.	F.	W.	48	M.	Housekeeper.	25, 9 a. m.	5	25	12 hours	Good.	Healthy—temperate.	Sudden invasion.
14	5	Poverty Point.	M.	W.	49	S.	Artist.	29	Aug. 5	-	-	Bad.	Healthy.	Premom. diarrhoea.
15	21057	Morrow St.	M.	W.	58	M.	Laborer.	Aug. 29	Sept. 10	-	-	Good.	Very intemperate.	Premom. diarrhoea.
16	52119	Eoff St.	M.	W.	59	M.	Cigar maker.	30, 3 p. m.	-	Aug. 31, 11 a. m.	2 hours	Good.	Intemperate.	Premom. diarrhoea.
17	83722	Eoff St.	M.	W.	30	S.	In iron mill.	30, 4 p. m.	-	31, 11 1/2 p. m.	7 1/2 hrs.	Med.	Intemperate.	Premom. diarrhoea.
18	52224	Main St.	M.	W.	35	M.	Teamster.	31, 8 a. m.	-	31, 11 a. m.	8 hours	Good.	Intemperate.	Premom. diarrhoea.
19	5	Poverty Point.	M.	W.	28	S.	In iron mill.	31, 6 p. m.	6	31, 12 p. m.	6 hours	Good.	Intemperate.	Unknown.
20	62408	Short St.	F.	W.	38	M.	Housekeeper.	Sept. 2	Sept. 6	-	-	Bad.	Intemperate.	Premom. diarrhoea.
21	8	Country Road.	F.	W.	32	M.	Housekeeper.	2, 8 a. m.	14	Sept. 2, 12 p. m.	16 hours	Med.	Intemperate.	Premom. diarrhoea.
22	63013	Market St.	M.	W.	48	M.	In iron mill.	2, 12 p. m.	-	Sept. 9, 10 a. m.	6 1/2 days	Good.	Healthy—temperate.	Sudden invasion.
23	1	North of 1st, on Main St.	M.	W.	40	M.	Housekeeper.	3, 10 a. m.	-	4, 7 a. m.	21 hours	Med.	Healthy—temperate.	Premom. diarrhoea.
24	2	Near 10th & Market Sts.	M.	Col.	67	M.	In iron mill.	3, 10 a. m.	-	4, 12 p. m.	38 hours	Bad.	Very intemperate.	Premom. diarrhoea.
25	62407	Alley C.	M.	W.	37	M.	Laborer.	3, 9 p. m.	-	4, 12 p. m.	27 hours	Good.	Very intemperate.	Premom. diarrhoea.
26	83725	Jacob St.	M.	W.	48	M.	Shoemaker.	3, 12 p. m.	-	5, 6 a. m.	30 hours	Good.	Very intemperate.	Premom. diarrhoea.
27	31214	Water St.	M.	W.	52	M.	Peddler.	5, 7 a. m.	-	5, 9 p. m.	14 hours	Good.	Intemperate.	Premom. diarrhoea.
28	62318	Woods St.	M.	W.	44	M.	In iron mill.	5, 7 a. m.	10	-	-	Good.	Healthy.	Premom. diarrhoea.
29	83638	Eoff St.	M.	W.	57	M.	In glass works.	6	14	-	-	Good.	Not robust—Mod. drinker.	Premom. diarrhoea.
30	2923	Jacob St.	M.	W.	57	M.	In iron mill.	6	11	-	-	Good.	Not robust—Mod. drinker.	Premom. diarrhoea.
31	2	Near 16th & Market Sts.	M.	W.	23	M.	In iron mill.	7, 8 p. m.	-	Sept. 8, 2 a. m.	6 hours	Med.	Healthy—Prostitute.	Premom. diarrhoea.
32	5	Poverty Point.	F.	W.	11	S.	Child.	14, 8 a. m.	-	14, 8 p. m.	12 hours	Bad.	Healthy.	Premom. diarrhoea.
33	5	Poverty Point.	F.	W.	55	Wid.	Housekeeper.	19	-	30	11 days	Bad.	Unknown—intemperate.	Unknown.
34	5	Poverty Point.	F.	W.	41	M.	Housekeeper.	24, 10 a. m.	-	25, 5 p. m.	31 hours	Bad.	Unknown.	Unknown.
35	4	Poverty Point.	M.	W.	10	S.	Child.	25, 9 a. m.	-	26, 4 a. m.	19 hours	Bad.	Healthy.	Unknown.

purging and cramps,—either one, two, or all of these symptoms.

The smith himself was the first to be attacked, had all these symptoms, and by reason of consequent debility was unable to resume work for about ten days. All the other cases were milder. I have visited this house, and did not learn of any error of diet to cause such a result.

Having now completed our account of the cases occurring in Wheeling and vicinity, we may state that the facts here given were received in no instance at second hand, but directly from either the attending physician, or the patient and present friends, or in most instances from both. We have visited every house—with a single exception—in which any case occurred, and our aim has been to give facts exactly as they existed.

*Mortality.*—By a reference to the table, it will be seen that we had two distinct visitations of cholera. One commenced on June 9, or, if we throw out Case 1, on June 20, and ended on July 29, during which time only thirteen cases occurred, with six deaths, a mortality of forty-six per cent. The disease then suddenly disappeared, not a single case occurring until exactly a month later, August 29, from which time until September 7 no less than eighteen cases occurred, when it again departed from the city proper; four additional cases occurring, however, between September 14, and September 25, in an isolated dwelling, making in the second epidemic a total of twenty-two cases, with sixteen deaths, a mortality of seventy-three per cent. During the Summer, then, there occurred thirty-five cases and twenty-two deaths, giving a mortality of sixty-three per cent, which certainly entitles the disease to be called *malignant*, whether it be of *Asiatic* or *American* origin.

*Distribution of the Disease.*—By a reference to the table it will be seen that the cases were located by wards as follows: First, three; Second, four; Third, one; Fourth, one; Fifth, nine; Sixth, eight; Eighth, nine; thus the three last named wards, which are south of the creek and joining one another, contained twenty-six out of the thirty-five cases. The case in the Third Ward was not a resident of it, but a peddler temporarily stopping there, and who may have been exposed to the germs of the disease in some of the houses visited by her daily. She was a German, able to speak little if any English; the wards south of the creek contain the greatest proportion of our German population, facts which render it probable that she plied her vocation principally in that part of the city. The case occurring in the Fourth Ward was a street paver, and on the day of his attack and previously, was at work in the Fifth Ward. One of the three in the First Ward—the patient whose wife also died—was in the almost daily habit, in conducting his business, of visiting the nail mills in the Sixth Ward. It is evident that the disease was in a great degree localized in the three lower wards.

*Local Sanitary Condition, Effects of.*—After a careful study of these cases, we are not convinced that the comparative uncleanness of different parts of the city affected the location of the cases, since there is no great difference in this respect between the different wards. The Third and Seventh are always the cleanest, and contained but one case, but the Second, which contained four cases, and the Fourth, which contained but one, are both less cleanly than the Eighth, which contained nine cases. The latter, however, as already stated, is the lowest, and next to it the Sixth and Fifth, which likewise are perhaps generally in the poorest sanitary condition, being to a very great extent unpaved and unsewered. Thus elevation, rather than cleanliness, seemed to exert a protecting influence, if indeed we are justified in drawing any conclusion where so few cases occurred.

The sanitary surroundings of the houses in which cases occurred, certainly did not in many instances exert any great influence. We have en-

deavored in the table to give some idea of the condition of each house visited, and its surroundings. Of course this can be but imperfectly done without a full description of the premises. The local sanitary condition is regarded as having been *bad* in fourteen cases, *medium* in four, and *good* in seventeen. In but four or five instances were the sanitary defects so bad as in our opinion to serve in any great measure as the predisposing cause of cholera. Certain it is that, with these few exceptions, many much worse places entirely escaped; while a number of the houses visited were very favorably located, and in excellent condition.

*Habits, etc., of Persons attacked.*—We are convinced that in this, as in other epidemics of cholera, the personal habits and mode of life, together with the previous state of health of those attacked with the disease, had much influence not only in inducing the attack, but also in bringing about a fatal termination. It will be seen that thirteen of the patients had been intemperate, three of them moderate drinkers, four in impaired health, and fifteen in good health, of which last number, three were over sixty-five years of age. Others might possibly be added to one or other of the unfavorable classes here named, were full data at hand. But even with these partial positively ascertained facts, we have a total of twenty-three persons who, by reason of either habits of drinking, previous ill health, or advanced years, were certainly not in a condition to resist this disease (I might also add to this list two fatal cases in children aged ten and eleven respectively). Of these, no less than sixteen died, a mortality of seventy per cent. Of the remaining twelve, previously temperate and healthy, six died, being fifty per cent., and two of these received no medical treatment, nor any proper care or nursing until *in extremis*.

It will be observed also, that ten out of the thirty-five persons attacked were employed in some of our iron mills. They are generally men of robust constitution, but careless concerning their health and habits of living. The business calls them to labor in an atmosphere whose temperature is excessively high; and very commonly after finishing a short piece of work, they step to the coolest place they can find, and sit down until their services are again required, often also drinking freely of ice water, and sometimes having cold water by the bucketful poured over their naked backs, from which the perspiration is steaming. To this we find a number of these men attribute their sickness; and that it had an influence as in some measure an exciting cause we are inclined to believe.

*Premonitory Diarrhœa.*—It is worth while to note the large number of cases in which premonitory diarrhœa occurred, viz., twenty-seven. The duration of this diarrhœa varied from half a day to over a week. We had during the epidemic an unusual number of cases of diarrhœa in the city, in which the stools were very liquid, and often of a light color, being generally described as "milky." Judging from the readiness with which these yielded to treatment—though a few of them were quite rebellious,—we cannot doubt that a number of deaths could have been prevented, had the patients given early warning of the existence of a diarrhœa, and at once placed themselves under intelligent medical treatment. This is a point already well established by past experience, and it should be impressed upon the public on all proper occasions.

*Sanitary Treatment.*—The Health Officer is the sole health authority in Wheeling, save a "Committee on Health" of the City Council, to whom the Health Officer is responsible. The statutes require physicians to report all cases of "Asiatic Cholera" to the Health Officer immediately on their recognition. Great doubt, however, existed in the minds of physicians here as elsewhere, as to the exact nature of the disease when it first appeared. Hence there was a hesitancy in announcing a case to be cholera, and hence delay, and often entire failure, to report the cases. Again, the law was fre-



quently disregarded without even this excuse. Even late in the epidemic, in some instances the first intimation the Health Officer received of the existence of a new case was from the local columns of the morning papers, or from rumors heard on the streets. As soon as discovered, however—which was sometimes done by tracing these street rumors—in all cases measures for thorough cleansing and disinfection were instituted. Whether any positive good was accomplished by the use of disinfectants, is a problem we are unable to solve. All the facts to be derived from our observations on this subject, may perhaps be best briefly expressed as follows:—

Case 1 disinfected promptly. No second case.

Case 2 not disinfected. A second case (No 3), after which disinfection. A case called cholera morbus occurred after this.

Case 4 probably not disinfected. No second case.

Cases 5, 6, 7, 8, and 9, disinfected. No second case.

Case 10 disinfected. A second case (No. 11), the wife, who died the next day.

Case 12 disinfected. No second cholera case. Two cases of diarrhœa, neither severe, and a case of cholera morbus, after disinfection.

Case 13 disinfected. No second case. This case followed three days after a case of what was called cholera morbus, which was not disinfected.

Case 14 not disinfected. Five additional cases (19, 32, 33, 34, and 35), followed before disinfection, after which there occurred no other case.

Cases 15, 16, 17, 18, 20, 21, and 22, disinfected. No second case.

Case 23 disinfected. Two children of this patient attacked with diarrhœa and vomiting the next day, which in both cases was easily controlled by immediate medical treatment.

Case 24 disinfected. A second case, a daughter (No 31).

Cases 25 and 26 disinfected. No second case.

Case 27 disinfected. No second case. The husband of this patient had mild cholera symptoms at the same time, and probably contracted the disease in the same way.

Cases 28 and 29 disinfected. No second case.

Case 30 not disinfected at all. A young child died with cholera infantum ten days after this case occurred.

In none of these cases was disinfection resorted to until active cholera symptoms set in. It may hence be argued that in the instances in which more than one case occurred, the later cases were caused by the poison of the premonitory diarrhœa. On the other hand, it may be pertinently inquired, why did not multiple cases more frequently occur, since premonitory diarrhœa existed in three-fourths of the cases? If we accept the doctrine that the dejecta are the principal source of infection, the following facts would lead us to conclude that the excreta of the premonitory diarrhœa are devoid of cholera germs, or at least that these germs are possessed of very feeble reproductive powers. As noted in the table, ten of the subjects of cholera were iron mill hands, employed in four different mills, in which not less than seven hundred men are employed. About all these cases suffered from premonitory diarrhœa, and before giving up work used the privy vaults frequented in common by all the men working in the mills. In no case was disinfection used in any of these vaults.

Is it possible that cholera germs could have been destroyed by the disinfectants always present in the atmosphere of iron mills?

On the other hand, the history of the cases which occurred in the country, seems to prove that the excreta of the premonitory diarrhœa do contain the cholera poison.

*Mode of Introduction to the City.*—This point we have purposely postponed discussing until now, in the hope of gaining some accurate information on the subject. It has already been seen, from the account of cases above detailed, that no history of direct importation has yet been traced in connection with any case. We are satisfied, however, after diligent investigation of the subject, that the disease was brought to this city by steamboat or railroad direct from Cincinnati. The cases occurring in the country we know positively to have been the result of importation. But Mr. C. did not stop in the city at all, merely passing through afoot to his home. Besides, our first case occurred eight days prior to his arrival. And if we exclude this as one of aggravated cholera morbus, the next, which occurred June 20, three days after Mr. C's arrival, was located about two miles from the steamboat landing. The same is true of the next five cases, while but one case occurred very near to the wharf.

All the facts we have been able thus far to gather, are briefly these: An officer of the *Andes*, a boat plying between Cincinnati and Wheeling weekly, informed us, that during June and July, they brought from the former city a large number of persons who suffered on the route with some form of diarrhœal disease. Some of these were simple diarrhœa, while others were attended with vomiting and severe pain. He kept several bottles of "cholera mixture" on board, and had frequent occasion to employ it. This officer gave us particulars of three cases that he remembered as being especially severe, but could not recall the names, and the boat being laid up at Cincinnati on account of low water at this time, he has not access to the books. Two of these sick persons were men, who disturbed the passengers by their loud cries of pain through the night. Another, was an old lady who, with her husband and daughter, took passage at Cincinnati. This was soon after cholera was reported in that city, and the officer thought that they were by its presence induced to leave the place. This lady took sick about Pomeroy, and was exceedingly nervous, and apparently alarmed. Some of the cholera mixture was administered, but she grew so much worse that at Parkersburg a physician was sent for. She improved before reaching Wheeling, but was so sick still as to require a carriage to convey her to her residence in this city. We hope yet to obtain the full facts concerning this case.

The porter on the *Hudson*, another weekly Cincinnati packet, informs us that the bar-keeper on that boat suffered a severe attack of what he called cholera, on his way up the river, and he also was compelled to secure a physician at Parkersburg. The porter described the excreta as being very white. This man is now in Cincinnati, and we have been unable to learn where he stopped in this city, where his clothing was washed, and other facts of interest connected with this case.

Although these facts prove nothing conclusively as to the importation of cholera into this city, yet they indicate a probable mode of introduction.

### SCARLATINA.

The last disease which claims our attention is Scarlatina, which appeared in the 8th Ward\* of the city in September, 1874. Only one or two deaths occurred in that month, but in October the disease became epidemic, and continued to prevail extensively until the past April. It is estimated that during the months of October to April inclusive, not less than two hundred and fifty cases occurred in the 8th Ward, which contains a population of about 4,000. The number of deaths in the Ward was between thirty and

\* The location and topography of this Ward have been given already.

forty. During the same months, the number of deaths returned from the remaining Wards of the city, with a population of 23,000, was only eleven, three being the highest number in any one ward. Thus it will be seen that the disease was epidemic only in one ward, this being somewhat separated from the other Wards of the city, and outside of which comparatively very few cases occurred.

It will perhaps serve to explain the peculiar character of some of the scarlatina cases, as referred to further on in this report, if I here state that diphtheria and membranous croup prevailed to a considerable extent during the prevalence of scarlatina, as shown by the following figures. There were reported to the Health Officer under the several terms "diphtheria," "diphtheritic croup," "membranous croup" and "pseudo-membranous laryngitis," in October 3 deaths, November 3, December 4, January 5, February 4, March 2, April 1.—Total 22. Of these there were in the Eighth Ward 9, in the remaining Wards 13. It will thus be seen that while these latter diseases—or this latter disease, if we accept the recent teachings of Jenner, Jacobi and other distinguished men—were not so largely localized as was Scarlatina; yet in the Ward in which the latter disease existed as an epidemic, these diseases found the greatest number of victims, nearly as many, indeed, as in all the other Wards combined.

In the Eighth Ward, the type of Scarlatina was severe. While a number of mild cases occurred, the majority were of the anginose variety, and quite a number very malignant. One physician reports to me that he treated thirty-eight cases, of which twenty-four were malignant. In these cases there was great soreness and tumefaction of the throat, and great enlargement of the glands and tissues of the neck.

A peculiarity of the malignant cases was the dark, purplish hue of the eruption. It also manifested little disposition to recede, but remained long after its usual period. A peculiar indescribable fetid odor is spoken of, as having been observed, as soon as a house was entered in which a malignant case existed. The character of the case was sometimes thus diagnosed, before the patient was seen.

A very common complication of these malignant cases was diphtheria, the diphtheritic exudation or membrane appearing on the fauces and tonsils, and sometimes in the nares. This is believed to have been the genuine diphtheritic disease added to the scarlatina, and was not that pseudo-membranous formation which is not unfrequently seen in anginose cases of scarlet fever, and which is "soft or pulsatious, in insolated points or patches, and is easily detached." As an evidence of the correctness of this observation, that the two diseases co-existed, may be cited the following facts, *viz.*: A child of a member of this society was attacked with scarlet fever, complicated by a membranous exudation on the throat, which was diagnosed as diphtheritic. During the convalescence of this patient, an infant child in the same family, only six weeks old, was attacked with diphtheria, the nostrils, as well as the throat, being involved. Before death, which occurred on the fifth day of the disease, a faint eruption appeared on the surface, which could not be certainly diagnosed as scarlatina, but the diphtheritic disease was plainly marked. In these complicated cases, it was not uncommon to see a membranous formation on the abraded surfaces about the mouth and nostrils. The cases in which diphtheria of the nostrils occurred were almost invariably fatal.

Uræmia was present in quite a number of cases, proving fatal either by coma or convulsions. The urine was tested in a few instances, and the urea found to be much diminished in quantity. This uræmia was generally present with albumenuria and dropsy as a sequela, but it occurred in one case at least very early, *viz.* in the second day of the disease, the patient



dying on the third. Entire suppression of urine for twenty-four to thirty-six hours occurred in one or more cases, while frequently the urine was diminished in amount.

Inflammation of the cervical glands coming on as a sequel, in cases that had run a favorable course, was quite common, and of these, suppuration of the glands occurred in an unusually large proportion.

It is the observation of several of our physicians, who saw a large number of scarlatina patients during this epidemic, that when early suppuration of these inflamed glands occurred, the case progressed favorably and the patient was saved; while if suppuration did not occur, death was apt to be the result. In the practice of the physician who is my authority for this statement—one of the most intelligent in the city—not a single death occurred after glandular suppuration. He therefore learned after a time to encourage early suppuration.

Other physicians were not so fortunate with this class of cases. One lost two cases out of four in which suppuration occurred. Another told me of a case in which "the entire skin and deeper tissues of the neck became gangrenous and sloughed off, leaving the muscles bare of any covering," Of course death was the result.

Dropsy occurred in a large number of the cases that had passed safely, and some times very easily, though the primary disease. This sequela was generally easily managed by judicious treatment, hygienic and medical. One death occurred from pericardial effusion, four weeks after the patient was considered well. The death was quite sudden, the patient having eaten a hearty supper only three hours previous to that event.

I omit all notice of treatment as nothing new was developed.

Although it had no connection with the scarlet fever of the 8th Ward, of which we have been speaking, it may be well in this place to refer to an epidemic that occurred in the "Children's Home," which is located in the 3rd Ward of this city.

On March 15th, a woman from Ohio brought her child, 18 months old, to the Home and it was admitted without the usual examination by a physician. After the mother had left the city, the child was seen by one of the Medical Board of the Institution, who discovered that it had scarlatina. He urged that it be sent away at once, but this seemed not practicable, and it would have been perhaps too late at any rate, since at least one of the children in the home had been for sometime nursing the sick baby, and it had been in contact with several others. The result was that on March 17th, the child who had nursed the new baby, and also another inmate of the Home, were attacked with Scarlet Fever. Between this date and May 7th, twenty cases of this disease occurred, no new case having appeared since the last named date. Four of these cases were malignant, two of which terminated fatally.

The inmates of the Home numbered thirty-six children and four adults; None of the children are known to have had the disease previous to this outbreak.

The cases were isolated as far as the character of the building would permit, and bromo-chloralum and sulphate of iron were employed as disinfectants. No carbolic acid, I am informed, was used.

What was the cause of the epidemic in the 8th Ward, and why confined to one ward of the city? If I could truly and satisfactorily answer these questions, my little labor expended on this report would not be in vain. "Bad drainage" is credited in these latter days with the causation of every zymotic disease by Sanitairans. No doubt defective drainage is a prolific

source of evil, and the 8th Ward is not blessed with good drainage. It is low, flat, and almost entirely without sewers or other proper drainage. But so has it been for many years, and not until now been stricken with an epidemic. In only one respect was it for a time worse last Summer than formerly; and that was when a large brewery let loose an immense quantity of sour beer to flow through the entire Ward, and for a time create a stench in the nostrils of every inhabitant. I do not pretend to say that this made up the difference between epidemic and no epidemic, but it certainly did not improve the sanitary condition of the Ward. If the same sanitary measures could have been enforced in these scarlet fever cases that are employed against the spread of small-pox, I cannot but think that the result would have been good. When a case of small-pox occurs in the city and is reported to the Health Officer, as the law requires, a guard is at once placed over the house in which the case exists, and no one is allowed entrance or exit, except the attending physician. The result is, we have no epidemics of this disease.

I am aware that some good sanitarians doubt the propriety, the practicability of applying this method of control over scarlet fever; but there are certain sanitary measures in the efficiency of which all agree, and yet how very commonly do physicians fail to enforce them. No intelligent physician will deny the propriety and importance even, of adopting the following prophylactic measures, which are essentially the same as those laid down by Budd. As soon as scarlet fever occurs:

1. Isolate the patient, and let no one enter the sick chamber except the physician and other necessary attendants.

2. Remove from the sick room the carpet, and all unnecessary drapery, clothing, furniture, &c.

3. Instead of handkerchiefs, let the patient use pieces of cotton or linen rags, which should be burned immediately after being once used.

4. Let all discharges from the patient's bowels, kidneys or stomach be received directly into vessels containing a disinfectant solution, of which carbolic acid is probably the best.

5. Let open vessels containing chloride of lime, or cloths saturated with carbolic acid be kept constantly in the room.

6. Remove no clothing or anything else indeed, from the room until placed in a solution of carbolic acid.

7. Let the nurse (and physician) always disinfect and wash her hands immediately before leaving the patient's room, and avoid contact with young persons, while out of the room.

8. After the recovery or death of the patient, disinfect and thoroughly cleanse *everything* in the room, beds, bedding, floor, all wood work, vessels, &c., &c., having first fumigated the room by burning sulphur.

In addition to the above, and first of all, a sign with the words SCARLET FEVER on it, in large, plain letters, should be placed in a conspicuous position on the house, when the case occurs.

If the above measures had been enforced with the first case of scarlet fever that occurred last Autumn here, and with the second, and the third, and everyone that followed, the result could only have been good, the number of cases would certainly have been less, and perhaps an epidemic have been prevented.

But I recognize the difficulty the attending physician will encounter, in attempting to put in operation such measures as are here advised, especially in the families of ignorant persons; and hence urge the importance of the

Health authorities being invested with the power to enforce sanitary measures in cases of scarlet fever, as well as of small-pox or cholera. Ignorant people always have a wholesome dread of the law when its execution is with one who is determined to enforce it.

In closing this hasty report I must express my regret that I have been unable to present such a history of the epidemics here referred to as would aid us in determining at least some of the causes involved, and other practical truths. Such a history always involves much labor, and the willing co-operation of many professional brethren, a co-operation I regret to say, that all are not at all times willing to yield. The close, intelligent study of epidemics, their origin, causes and progress, is certainly a matter of the greatest importance, and should be encouraged by this Society as one of the surest means of developing new truths and leading to the prevention of disease.

#### MORTALITY REPORT.

I append the death reports for the city of Wheeling, for the years 1873 and 1874. These are compiled from the certificates of death furnished by the attending physician to the friends of all persons dying in the city, and returned to the Health Officer on the first day of every month by the sextons of the different burying grounds. The reports are always inexact, by reason of the fact, that a few bodies are each month removed from the city for interment, and the physicians' certificates being taken with them, are not returned. It is probable that from this cause the number of deaths returned to the Health Officer and by him reported annually, will fall short of the actual number by at least fifty.

This will account for the discrepancy which exists between the number of deaths given in my report on cholera as having occurred from that disease, and the number of deaths from this cause given in the annual report for 1873.



## MORTALITY REPORT FOR 1873 and 1874.

Causes.	Deaths in each Month.		1873.	1874.	
	1873.	1874.			
Bowels, Disease of.....	1	1	January.....	26	26
Bowels, Hemorrhage from.....	2	2	February.....	37	29
Bowels, Inflammation of.....	8	3	March.....	43	27
Bowels, Obstruction of.....	2	1	April.....	29	33
Bowels, Ulceration of.....	2	2	May.....	31	35
Brain, Congestion of.....	7	3	June.....	40	23
Brain, Inflammation of.....	7	3	July.....	43	42
Bronchitis, Acute.....	4	2	August.....	30	57
Broncho-pneumonia.....	3	3	September.....	40	34
Cancer.....	11	11	October.....	32	28
Cholera, Malignant.....	15	3	November.....	31	87
Cholera Infantum.....	37	33	December.....	28	80
Cholera Morbus.....	4	2	Spring Months.....	103	94
Consumption.....	37	42	Summer Months.....	113	122
Convulsions.....	35	38	Autumn Months.....	103	99
Croup, Membranous .....	5	5	Winter Months.....	91	85
Diarrhoea, Acute.....	5	7			
Diphtheria.....	3	7			
Dysentery.....	1	3			
Erysipelas.....	4	2			
Fever, Puerperal.....	11	6			
Fever, Scarlet.....	21	1			
Fever, Typhoid.....	39	19			
Laryngitis.....	6	1			
Lungs, Congestion of.....	3	2			
Lungs, Disease of.....	1	1			
Marasmus.....	16	12			
Measles.....	5	2			
Meningitis.....	3	5			
Meningitis, Cerebro-spinal.....	2	3			
Meningitis, Tubercular.....	5	2			
Old Age.....	12	11			
Peritonitis.....	5	2			
Pleurisy.....	2	1			
Pneumonia.....	19	32			
Pleuro-pneumonia.....	5	3			
Suicide.....	3	4			
Whooping Cough.....	15	15			
All other causes.....	95	99			
Total .....	410	400			